

Package ‘sqrtn’

March 29, 2019

Type Package

Title Calculate sqrt(n) with very high precision

Version 1.0

Date 2019-03-16

Author Xu Liu

Maintainer Xu Liu <liu.xu@sufe.edu.cn>

Description Calculate sqrt(n) with very high precision, for example 10,000 or bigger.

License GPL (>= 2)

Depends R (>= 3.2.0)

Repository GitHub

NeedsCompilation yes

Encoding UTF-8

Archs i386, x64

R topics documented:

sqrtn-package	1
sqrtn	2

Index	3
--------------	---

sqrtn-package	<i>Calculate sqrt(n) with very high precision</i>
---------------	---

Description

Calculate sqrt(n) with very high precision, for example 10,000 or bigger.

Details

Package: sqrtn
Type: Package
Version: 1.0.1
Date: 2019-03-28
License: GPL (>= 2)

sqrtn

*An R package to calculate $\sqrt[n]{n}$ with very high precision.***Description**

Calculate $\sqrt[n]{n}$ with very high precision. Currently, we approximate $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, and $\sqrt{7}$ only. "sqrtn" implements dramatically fast. It takes only 2.57 seconds to approximate $\sqrt{2}$ with 10,000 digits, and 2.98 seconds with 100,000 digits.

Usage

```
sqrtn(prec,n=2)
```

Arguments

prec	A non negative integer, which is the precision you want.
n	A non negative integer, the default is 2. Currently, we can only approximate $\sqrt{2}$.

Value

sqrtn	The digits of the square root of n , which is a string.
prec	The input precision.

Author(s)

Xu Liu

Examples

```
#Example 1
fit <- sqrtn(100)
print(fit$sqrt2,quote=FALSE)

#Example 2
fit <- sqrtn(100,3)
print(fit$sqrt2,quote=FALSE)

#Example 3
fit <- sqrtn(100,5)
print(fit$sqrt2,quote=FALSE)

#Example 4
fit <- sqrtn(100,7)
print(fit$sqrt2,quote=FALSE)
```

Index

`sqrtn`, [2](#)
`sqrtn (sqrtn-package)`, [1](#)
`sqrtn-package`, [1](#)